CURRENT LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) A method for internet protocol (IP) address selection, comprising the steps of:

assigning a single domain name to a set of server IP addresses corresponding to plural servers;

receiving a request for the domain name from a client IP address;

retrieving a set of IP routes linking the server IP addresses and the client IP address; and

selecting an IP route from the set of routes which meets predetermined criteria.

2. (Original) The method of claim 1 wherein the retrieving step includes the step of:

retrieving the set of IP routes from a cache database.

3. (Original) The method of claim 1 wherein the retrieving step includes the step of:

retrieving the set of IP routes from an IP routes database.

4. (Original) The method of claim 1 wherein the retrieving step includes the step of:

retrieving the set of IP routes from a set of routers using a BGP protocol.

5. (Original) The method of claim 1 wherein the retrieving step includes the step of:

retrieving the set of IP routes from a set of routers using an SNMP (MIB retrieval) protocol.

6. (Original) The method of claim 1 wherein the retrieving step includes the step of:

retrieving the set of IP routes from a set of routers using a Telnet protocol.

7. (Original) The method of claim 1 wherein the selecting step includes the step of:

selecting the IP route from the set which has a shortest AS path.

8. (Original) The method of claim 1 wherein the selecting step includes the step of:
selecting the IP route from the set which has a lowest origin type.

9. (Original) The method of claim 1 wherein the selecting step includes the step of:
selecting the IP route from the set which has a lowest MED.

10. (Original) The method of claim 1 wherein the selecting step includes the step of:
selecting the IP route from the set equal to a default IP address.

11. (Original) The method of claim 1 further comprising the step of:
storing the IP routes in a cache database.

12. (Original) The method of claim 1 further comprising the step of:
storing the IP routes in an IP routes database.

13. (Original) The method of claim 1 further comprising the step of:
defining an enhanced address resource record, including a domain name, a list of corresponding servers and routers, router retrieval parameters, a default client/server IP route, and timeouts.

14. (Original) The method of claim 1 further comprising the step of:
transmitting an IP address from the set of server IP addresses which corresponds to the selected IP route.

15. (Previously Presented) A computer-usable medium embodying computer program code for commanding a computer to perform internet protocol address selection, comprising the steps of:

assigning a single domain name to a set of server IP addresses corresponding to plural servers;

receiving a request for the domain name from a client IP address;

retrieving a set of IP routes linking the server IP addresses and the client IP address; and

selecting an IP route from the set of routes which meets predetermined criteria.

16. (Original) The computer-usable medium of claim 15 wherein the retrieving step includes the step of:

retrieving the set of IP routes from a cache database.

17. (Original) The computer-usable medium of claim 15 wherein the retrieving step includes the step of:

retrieving the set of IP routes from a set of routers using a BGP protocol.

18. (Original) The computer-usable medium of claim 15 wherein the retrieving step includes the step of:

retrieving the set of IP routes from a set of routers using an SNMP (MIB retrieval) protocol.

19. (Original) The computer-usable medium of claim 15 wherein the retrieving step includes the step of:

retrieving the set of IP routes from a set of routers using a Telnet protocol.

20. (Original) The computer-usable medium of claim 15 wherein the selecting step includes the step of:

selecting the IP route from the set which has a shortest AS path.

21. (Original) The computer-usable medium of claim 15 wherein the selecting step includes the step of:

selecting the IP route from the set which has a lowest origin type.

22. (Original) The computer-usable medium of claim 15 wherein the selecting step includes the step of:

selecting the IP route from the set which has a lowest MED.

23. (Original) The computer-usable medium of claim 15 wherein the selecting step includes the step of:

selecting the IP route from the set equal to a default IP address.

24. (Original) The computer-usable medium of claim 15 further comprising the step of:

transmitting an IP address from the set of server IP addresses which corresponds to the selected IP route.

25. (Previously Presented) A system for internet protocol (IP) address selection comprising:

a set of servers, having a single domain name;

a client computer;

a set of routers, coupled to the servers and the client computer, for storing IP routes between the servers and the client; and

a domain name system server, coupled to the routers, for downloading the IP routes from the routers for storage in an IP routes database, and, in response to a query containing the domain name received from the client computer, selecting one of the IP routes contained in the IP routes database which meets predetermined criteria.

26. (Original) The system of claim 25 further comprising:

a cache database, coupled to the domain name system server, for storing previously selected IP routes.

27. (Previously Presented) The system of claim 25, wherein the IP routes database is for storing all of the IP routes.

28. (Original) The system of claim 25 wherein:

the domain name system server includes an enhanced address resource record storing the single domain name, a list of the servers and routers, a set of router retrieval parameters, a default IP route, and timeouts; and

the domain name system server accesses the retrieval parameters in order to select the IP routes.

29. (Previously Presented) The method of claim 1, wherein the client IP address corresponds to a client, wherein the set of IP routes comprises IP routes from the client to the respective plural servers, and

wherein selecting the IP route comprises selecting the IP route corresponding to the server that satisfies the predetermined criteria.

30. (Previously Presented) The method of claim 1, wherein the client IP address corresponds to a client, wherein the set of IP routes comprises IP routes from the client to the respective plural servers, and

wherein selecting the IP route comprises selecting the IP route to the server associated with a shortest path from the client.

31. (Previously Presented) The method of claim 1, wherein the assigning, receiving, retrieving, and selecting acts are performed by a domain name system (DNS) server.

32. (Previously Presented) The method of claim 31, wherein retrieving the set of IP routes comprises retrieving a set of IP routes information relating to the IP routes, where each IP route information is defined by at least two IP addresses.

33. (Previously Presented) The method of claim 31, further comprising:

prior to retrieving the set of IP routes, checking a database in a cache to find an IP route entry containing an IP route previously indicated as being a best IP route; and

in response to finding the IP route entry in the cache, using the IP route previously indicated as being the best IP route as the selected IP route.

34. (Previously Presented) The method of claim 33, wherein retrieving the set of IP routes is performed from an IP routes database, and wherein retrieving the set of IP routes from the IP routes database is in response to determining that the IP route entry is not present in the cache.

35. (Previously Presented) The method of claim 31, further comprising:

accessing a field in a record, the field to indicate one of plural techniques for downloading IP routes from routers to the DNS server; and

based on the technique identified by the field, establishing one or more sessions with the routers to download IP routes from the routers into an IP routes database in the DNS server,

wherein retrieving the set of IP routes is performed from the IP routes database.

36. (Previously Presented) The method of claim 35, wherein establishing the one or more sessions with the routers comprises establishing one or more Border Gateway Protocol (BGP) sessions with the routers to download IP routes from the routers into the IP routes database, in response to the field indicating use of BGP retrieval.

37. (Previously Presented) The method of claim 36, wherein establishing the one or more sessions with the routers comprises establishing one or more Simple Network Management Protocol (SNMP) sessions with the routers to download IP routes from the routers into the IP routes database, in response to the field indicating use of Management Information Base (MIB) retrieval.

38. (Previously Presented) The method of claim 37, wherein establishing the one or more sessions with the routers comprises establishing one or more Telnet sessions with the routers to download IP routes from the routers into the IP routes database, in response to the field indicating use of Telnet retrieval.

39. (Previously Presented) The method of claim 35, wherein establishing the one or more sessions with the routers comprises establishing one of plural different types of sessions corresponding to the one of plural techniques specified by the field to download IP routes from the routers into the IP routes database.

40. (Previously Presented) The computer-usable medium of claim 15, wherein the client IP address corresponds to a client, wherein the set of IP routes comprises IP routes from the client to the respective plural servers, and

wherein selecting the IP route comprises selecting the IP route corresponding to the server that satisfies the predetermined criteria.

41. (Previously Presented) The computer-usable medium of claim 15, wherein the client IP address corresponds to a client, wherein the set of IP routes comprises IP routes from the client to the respective plural servers, and

wherein selecting the IP route comprises selecting the IP route to the server associated with a shortest path from the client.

42. (Previously Presented) The computer-usable medium of claim 15, wherein retrieving the set of IP routes comprises retrieving a set of IP routes information, where each IP route information is defined by at least two IP addresses.

43. (Previously Presented) The computer-usable medium of claim 15, wherein retrieving the set of IP routes is performed from an IP routes database.

44. (Previously Presented) The computer-usable medium of claim 43, wherein the computer program code commands the computer to further:

access a field in a record, the field to indicate one of plural techniques for downloading IP routes from routers to the computer; and

based on the technique identified by the field, establish one or more sessions with the routers to download IP routes from the routers into the IP routes database in the computer.

45. (Previously Presented) The computer-usable medium of claim 44, wherein establishing the one or more sessions with the routers comprises establishing one or more Border Gateway Protocol (BGP) sessions with the routers to download IP routes from the routers into the IP routes database, in response to the field indicating use of BGP retrieval.

46. (Previously Presented) The computer-usable medium of claim 44, wherein establishing the one or more sessions with the routers comprises establishing one or more Simple Network Management Protocol (SNMP) sessions with the routers to download IP routes from the routers into the IP routes database, in response to the field indicating use of Management Information Base (MIB) retrieval.

47. (Previously Presented) The computer-usable medium of claim 44, wherein establishing the one or more sessions with the routers comprises establishing one or more Telnet sessions with the routers to download IP routes from the routers into the IP routes database, in response to the field indicating use of Telnet retrieval.

48. (Previously Presented) The computer-usable medium of claim 44, wherein establishing the one or more sessions with the routers comprises establishing one of plural different types of sessions corresponding to the one of plural techniques specified by the field to download IP routes from the routers into the IP routes database.

49. (Previously Presented) The system of claim 25, wherein the domain name system server is adapted to:

access a record containing a field that specifies use of plural techniques for establishing sessions with the routers for downloading the IP routes; and

establishing one of plural different types of sessions corresponding to the one of plural techniques specified by the field to download the IP routes from the routers into the IP routes database.

50. (Previously Presented) The system of claim 49, wherein the plural different types of sessions comprise Border Gateway Protocol (BGP) sessions, Simple Network Management Protocol (SNMP) sessions, and Telnet sessions.

51. (Previously Presented) The system of claim 25, wherein the domain name system server selects the IP routes corresponding to the server that satisfies the predetermined criteria.

52. (Previously Presented) The system of claim 25, wherein the domain name system server selects the IP route to the server with a shortest path from the client computer, the predetermined criteria comprising a shortest path criterion.

53. (Previously Presented) The system of claim 25, wherein the set of servers having the single domain name are associated with plural respective server IP addresses, wherein the client has a client IP address, and

wherein the IP routes downloaded to the IP routes database are defined by the client IP address and the plural respective server IP addresses.